

Architectures for TPF-I/Darwin

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Many different architectures have been proposed for the TPF-I and Darwin missions over the last decade. This talk will review a series of nulling configurations, beginning with the simple Bracewell, and including the linear dual Bracewell, OASES and Laurant designs, the X-Array, and ending with the current leading candidates: the right-angled Three-Telescope Nuller and stretched X-Array. I will show how each stage in the evolution was driven by new insights and understanding of the performance properties: the need for phase chopping, high-order nulls, modulation efficiency, the point spread function, and the importance of instability noise.